Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently Amended) A thermally tuned laser array ~~optical device~~ comprising:

an array of lasers, each laser comprising:

~~a diode laser having~~ a substrate, a waveguide, and an active region between the substrate and the waveguide;

an electrical contact on the substrate, the substrate being at a substrate potential;

a metal layer in thermal contact with the waveguide;

a first electrical contact on the metal layer, whereby application of a first potential to the first electrical contact causes the ~~diode~~ laser to lase; and

a second electrical contact on the metal layer, whereby application of a second potential to the second electrical contact causes a current to flow between the first electrical contact and the second electrical contact, thereby heating the laser.

Claim 2. (Currently Amended) The thermally tuned laser array ~~optical device~~ of claim 1 wherein a dielectric separates the second electrical contact and the waveguide.

Claim 3. (Currently Amended) The thermally tuned laser array ~~optical device~~ of claim 2 wherein the dielectric separates

the metal layer and the waveguide at locations other than substantially about the first electrical contact.

Claim 4. (Currently Amended) The thermally tuned laser array ~~optical device~~ of claim 3 wherein the waveguide is formed of a ridged InP cladding layer containing a grating.

Claim 5. (Currently Amended) The thermally tuned laser array ~~optical device~~ of claim 4 wherein the ridged InP cladding layer has a top surface, with the metal layer in thermal contact with the top surface.

Claim 6. (Currently Amended) The thermally tuned laser array ~~optical device~~ of claim 5 further comprising a thermoelectric (TE) cooler thermally coupled to the substrate.

Claim 7. (Currently Amended) The thermally tuned laser array ~~optical device~~ of claim 6 wherein ~~a plurality of~~ each waveguide~~s are~~ is separated from the substrate by the active region~~, the optical device therefore forming an array of lasers~~.

Claim 8. (Currently Amended) The thermally tuned laser array ~~optical device~~ of claim 7 wherein at least some of the lasers in the array of lasers lase at different wavelengths.

Claim 9. (Cancelled)

Claim 10. (Currently Amended) The thermally tuned laser array ~~optical device~~ of claim ~~9~~ 8 wherein ~~the~~ each second electrical contact~~s are~~ is tied to the same potential.

Claims 11-14. (Cancelled)

Claim 15. (Currently Amended) A method of thermally tuning a ~~diode~~ thermally tuned laser array, ~~the diode~~ each laser of the laser array having an metal layer atop ~~the~~ each laser and a substrate, the method comprising:

forward biasing ~~the~~ each laser by placing at least a portion of the metal layer at a potential above the substrate to cause the laser to emit light; and

generating a current in the metal layer by placing at least a second portion of the metal layer at a potential different than the potential above the substrate, whereby heat is produced in the metal layer.

Claim 16. (Original) The method of claim 15 wherein the substrate is at a substrate potential, and the difference between the substrate potential and the potential above the substrate is significantly greater than the difference between the potential above the substrate and the potential different than the potential above the substrate.

Claims 17-41. (Cancelled)

Claim 42. (Original) A thermally tuned laser array comprising:

an array of lasers on a substrate;

means for providing a drive signal to lasers making up the array of lasers;

means for providing a heating signal to lasers making up the array of lasers, the heating signal and the drive signal in conjunction resulting in heating of a laser in the array of lasers.